

## REMARKS

By the present amendment, claims 1, 9, 10, 21, 37, 38, 40, 48, and 60 have been amended, and claims 4, 39, and 43 have been canceled without prejudice. No claims have been added. Accordingly, claims 1-3, 5-42, and 44-75 are presently pending, and favorable reconsideration thereof is respectfully requested. Claims 1, 37, 38, and 40 are independent claims.

In the Office Action mailed on November 6, 2007, the Examiner withdrew previous rejections under 35 U.S.C. §§ 102 and 103. Applicant thanks the Examiner for withdrawing these rejections.

### **35 U.S.C. § 103 – An in view of Cranford Jr. *et al.***

The Examiner has rejected claims 1-5, 11, 12, 15-22, 28, 31-44, 49-51, 54-61, 67, and 70-75 under 35 U.S.C. § 103(a) as being unpatentable in light of United States Patent Publication No. 2001/0040919 to An (“An”) in view of United States Patent Publication No. 2004/0066864 to Cranford Jr. *et al.* (“Cranford”). The Examiner also rejected claim 76 under 35 U.S.C. § 103(a), although no claim 76 was or is pending.

Applicant respectfully submits that An and Cranford fail to satisfy the requirements for a finding of obviousness of independent claims 1, 37, 38, and 40.

#### Claim 1

Claim 1 as amended corresponds to claim 1 as issued in Applicant’s Canadian Patent No. 2,499,938.

Applicant respectfully submits that neither An nor Cranford discloses or suggests producing a correlation value representing a correlation of a first traffic waveform with a second traffic waveform, as recited in Applicant's amended claim 1, where the first traffic waveform represents a time distribution of data volume in a first direction in a data communication system in a first period of time, and the second traffic waveform represents a time distribution of data volume in a second direction in the data communication system in a second period of time.

Paragraph 24 of An describes the production of a detected error, which the Examiner appears to consider to correspond to the correlation value recited in amended claim 1. However, Applicant respectfully submits that the detected error disclosed in An is not produced by correlating waveforms of the type recited in Applicant's amended claim 1, but rather is produced from a sampled value and a filtered value associated with a common isochronous period. The sample value and the filtered value in An are not waveforms, and Applicant respectfully submits that a person of ordinary skill in the art, having read An, would find no apparent reason to combine waveforms representing time distributions of data volumes rather than the sampled and filtered values of An to produce a correlation value.

The Examiner has alleged that Figures 2A and 2B of An illustrate the result of the sampled value in waveform, where the waveform is filtered with LPF, and that the X-axis of Figures 2A and 2B can represent the frequency or time, where the Y-axis can represent the data volume or gain. Applicant understands the Examiner to mean that Figures 2A and 2B represent waveforms, but even if this is so, Applicant respectfully submits that paragraph 24 of An fails to describe correlating such waveforms, and instead appears to describe producing a detected error value from what appear to be one sampled value and one filtered value associated with one isochronous period. Thus, the detected error value in An is not based on correlation of two waveforms, but rather is based on individual values that are part of the alleged waveforms at a given time. Thus, Applicant

respectfully submits that An fails to describe producing a correlation value as recited in Applicant's amended claim 1.

Paragraph 11 of Cranford describes producing a sample condition signal by using a correlator to compare stored sample patterns to predefined patterns. Paragraph 10 of Cranford describes the production of the stored sample patterns by oversampling a data stream, typically a serial data stream. However, the data stream or serial data stream received does not appear to be a traffic waveform representing a time distribution of data volume.

Paragraph 12 of Cranford describes the output of the correlator as a sample condition signal indicating whether an edge was detected early, late, or properly, or whether the pattern does not reliably provide information. However, this sample condition signal does not appear to be a correlation value representing a correlation of a first traffic waveform with a second traffic waveform, as recited in amended claim 1, and appears to be completely unrelated to indicating a bandwidth anomaly.

Furthermore, Applicant respectfully submits that neither An nor Cranford discloses or suggests receiving a first traffic waveform representing a time distribution of data volume in a first direction, and receiving a second traffic waveform representing a time distribution of data volume in a second direction, as recited in amended claim 1.

Having regard to Figure 1 and to paragraphs 22 and 24 of An, it appears that the error detecting unit 124 receives a sample value and a filtered value derived from sampled values, originating from a sampler 122. The sampled value and the filtered value appear to be representations derived from the same sampler, and therefore appear to be representations of data transmission in a same direction.

The subject matter of the former claim 4 related to receiving a second traffic waveform representing a time distribution of a data volume in a second direction and using the second traffic waveform as the reference waveform of the former claim 1, and by the amendment herewith has been incorporated into amended claim 1. In connection with the now-canceled claim 4, the Examiner referred to paragraphs 20-25 of An. The Examiner appears to regard the transmission of a word from the interface 102 to the interface 104 as relating to bit stream data in a first direction and the transmission of a word from the interface 104 to the interface 102 as relating to bit stream data in a second direction. The reference states that the operation condition is set by a user (paragraph 21, last sentence).

There is nothing to suggest that the transmission of words in respective directions and/or the corresponding data transmission rate detected for each direction results in waveforms that are used to produce a correlation value representing a correlation of such waveforms. The operating condition, that is, the direction of data flow during which data rate measurements are taken, appears to be unidirectional at any given time, i.e. any isochronous period. There is nothing to suggest that a waveform representing a time distribution of traffic in a first direction be correlated with a waveform representing a time distribution of data in a second direction, as claimed in Applicant's amended claim 1.

In summary, Applicant respectfully submits that the disclosures of An and Cranford, both alone and in combination, are significantly different from the method of claim 1. For example, Applicant respectfully submits that both An and Cranford fail to disclose or suggest:

1. producing a correlation value representing a correlation of a first traffic waveform representing a time distribution of data volume with a second traffic waveform representing a time distribution of data volume; and
2. producing a correlation value representing a correlation of a first traffic waveform representing a time distribution of data volume in a first direction

with a second traffic waveform representing a time distribution of data volume in a second direction,  
as recited in amended claim 1.

It has been well established, as reflected in M.P.E.P. § 2141.02, that in determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

Applicant respectfully submits that even if the method of Cranford were used in the network of An, all of the elements of Applicant's amended claim 1 would not be present. Therefore, Applicant respectfully submits that amended claim 1 is so different from An and Cranford that amended claim 1 is not obvious in view of those references.

Moreover, Applicant respectfully submits that there would be no motivation or suggestion to combine An with Cranford and to make the modifications necessary to arrive at the combination of amended claim 1. As stated in the preamble of amended claim 1, amended claim 1 recites a method of detecting bandwidth anomalies in a data communication system. Applicant respectfully submits that neither An nor Cranford appears to be concerned with producing a correlation value representing a correlation of traffic waveforms representing data volume.

The Examiner has alleged that it would have been obvious to use the method of Cranford in the network of An. However, Applicant respectfully submits that there would be no apparent reason to apply the bit pattern correlation method or apparatus of Cranford to the apparatus disclosed in An. Applicant could not

locate any bit patterns disclosed in An that could obviously be used by the bit pattern correlator of Cranford, such that the output of the bit pattern correlator would be a correlation value representing a correlation of first and second traffic waveforms representing data volume in first and second directions.

Therefore, Applicant respectfully submits that claim 1 is not obvious having regard to An in view of Cranford, and Applicant respectfully submits that the rejection of claim 1 under 35 U.S.C. § 103(a) has been overcome.

#### Claims 2, 3, 5, 11, 12, 15-22, 28, and 31-36

Claims 2, 3, 5, 11, 12, 15-22, 28, and 31-36 all depend directly or indirectly from independent amended claim 1. Accordingly, Applicant respectfully submits these claims are not obvious in view of the cited references due to their dependencies, and due to the additional subject matter that these claims recite. Therefore, Applicant respectfully submits that the Examiner's rejection of claims 2, 3, 5, 11, 12, 15-22, 28, and 31-36 under 35 U.S.C. § 103(a) has been overcome.

#### Claim 4

Claim 4 has been canceled.

#### Claims 37, 38, and 40

Claims 37, 38, and 40, as amended, are independent claims reciting elements similar to those recited in independent amended claim 1. Claims 37, 38, and 40 as amended are also similar to issued claims 21-23, respectively, in Applicant's Canadian Patent No. 2,499,938. Accordingly, Applicant respectfully submits that for reasons similar to those above in respect of independent amended claim 1, claims 37, 38, and 40 are not obvious in view of the cited references. Therefore,

Applicant respectfully submits that the Examiner's rejection of claims 37, 38, and 40 under 35 U.S.C. § 103(a) has been overcome.

Claim 39

Claim 39 has been canceled.

Claims 41, 42, 44, 49-51, 54-61, 67, and 70-75

Claims 41, 42, 44, 49-51, 54-61, 67, and 70-75 depend directly or indirectly from independent claim 40. Accordingly, Applicant respectfully submits that these claims are not obvious in view of the cited references, due to their dependencies, and due to the additional subject matter that these claims recite. Therefore, Applicant respectfully submits that the Examiner's rejection of claims 41, 42, 44, 49-51, 54-61, 67, and 70-75 under 35 U.S.C. § 103(a) has been overcome.

Claim 43

Claim 43 has been canceled.

**35 U.S.C. § 103 – An in view of Cranford and Sahinoglu *et al.***

The Examiner has rejected claims 6-10, 23-27, 45-48, and 62-66 under 35 U.S.C. 103(a) as being unpatentable having regard to An, in view of Cranford and further in view of United States Patent Publication No. 2003/0021295 to Sahinoglu *et al.* ("Sahinoglu").

As noted above, Applicant respectfully submits that An and Cranford fail to disclose or suggest producing a correlation value representing a correlation of a first traffic waveform with a second traffic waveform, where the first traffic waveform represents a time distribution of data volume in a first direction in a

data communication system in a first period of time, and the second traffic waveform represents a time distribution of data volume in a second direction in the data communication system in a second period of time, as recited in Applicant's amended claims 1 and 40. Applicant respectfully submits that Sahinoglu also fails to disclose or suggest the same, and therefore amended claims 1 and 40 are also not obvious having regard to An in view of Cranford and further in view of Sahinoglu.

Accordingly, Applicant respectfully submits that claims 6-10 and 23-27 that depend directly or indirectly from independent claim 1, and claims 45-48 and 62-66 that depend directly or indirectly from independent claim 40, are not obvious in view of the cited references, due to their dependencies, and due to the additional subject matter that these claims recite. Therefore, Applicant respectfully submits that the Examiner's rejection of claims 6-10, 23-27, 45-48, and 62-66 under 35 U.S.C. § 103(a) has been overcome.

### **35 U.S.C. § 103 – An in view of Cranford and Chen *et al.***

The Examiner has rejected claims 13, 14, 29, 30, 52, 53, 68, and 69 under 35 U.S.C. 103(a) as being unpatentable having regard to An, in view of Cranford, and further in view of United States Patent Publication No. 2004/0017779 to Chen *et al.* ("Chen").

As noted above, Applicant respectfully submits that An and Cranford fail to disclose or suggest producing a correlation value representing a correlation of a first traffic waveform with a second traffic waveform, where the first traffic waveform represents a time distribution of data volume in a first direction in a data communication system in a first period of time, and the second traffic waveform represents a time distribution of data volume in a second direction in the data communication system in a second period of time, as recited in Applicant's amended claims 1 and 40. Applicant respectfully submits that Chen



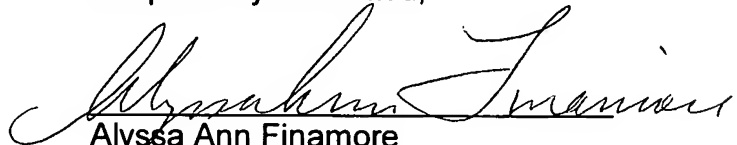
also fails to disclose or suggest the same, and therefore amended claims 1 and 40 are also not obvious having regard to An in view of Cranford and further in view of Chen.

Accordingly, Applicant respectfully submits that claims 13, 14, 29, and 30 that depend directly or indirectly from independent claim 1, and claims 52, 53, 68, and 69 that depend directly or indirectly from independent claim 40, are also not obvious in view of the cited references due to their dependencies, and due to the additional subject matter that these claims recite. Therefore, Applicant respectfully submits that the Examiner's rejection of claims 13, 14, 29, 30, 52, 53, 68, and 69 under 35 U.S.C. § 103(a) has been overcome.

### **Conclusion**

Applicant respectfully requests further favorable consideration of the application.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Alyssa Ann Finamore".

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